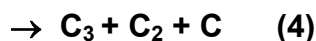
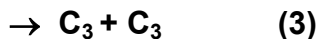


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Thermodynamic Data

$$\Delta H^{\circ}_0(1) = -409 \text{ kJ mol}^{-1}$$

$$\Delta H^{\circ}_0(2) = -315 \text{ kJ mol}^{-1}$$

$$\Delta H^{\circ}_0(3) = -550 \text{ kJ mol}^{-1}$$

$$\Delta H^{\circ}_0(4) = 151 \text{ kJ mol}^{-1}$$

$$\text{Ionisation potential} = 936 \text{ kJ mol}^{-1} = 9.70 \text{ eV}$$

Thermochemical data have been obtained with $\Delta H^{\circ}_0 = \text{DE} - \text{IP}$. DE from Diaz-Tendero et al (2006), IP (vertical) estimated from Belau et al (2007) (estimated error bar 0.2 eV). Estimated error bars on ΔH values: $\sim 50 \text{ kJ mol}^{-1}$

Rate Coefficient Data

$k / \text{cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$	T / K	Reference	Comments
<i>Rate Coefficient Measurement</i>			
<i>None</i>			
<i>Reviews and Evaluations</i>			
$2.0 \times 10^{-6}(T/300)^{-0.3}$		OSU09 website	(a)
$2.0 \times 10^{-6}(T/300)^{-0.3}$	10-300	UMIST06 database	(a)
<i>Branching Fraction Measurement</i>			
(1) = 0.09(± 0.02)		Chabot 2006, 2010	(b)
(2) = 0.11(± 0.02)			
(3) = 0.80(± 0.04)			
<i>Branching fraction Reviews and Evaluations</i>			
(1) = (2) = 0.5		OSU09 website	(a)
(1) = (2) = 0.5	10-300	UMIST06 database	

Comments

(a) OSU and UMIST estimations for reaction rates and branching fractions are from Herbst & Leung (1989). Lognormal factor 1.25 of accuracy is reported.

(b) Measurements have been performed with High Velocity Collision experiments on hot (3000°K) C_6^+ clusters produced by a sputtering source and capturing an electron from an atom. Results have been interpreted satisfactorily within a statistical fragmentation behaviour (Martinet, 2004). Derivation of these experimental results in astrochemical context

assumes that statistical fragmentation occurs under DR process (Chabot 2010).

Preferred Values

Rate constant:

$$k = 2 \times 10^{-6} (T/300)^{-0.3} \text{ cm}^3 \text{ molecule}^{-1} \text{ s}^{-1}$$

Reliability of rate constant:

$$F_0=2; g=0$$

Recommended Branching Fractions:

$$(1) = 0.10$$

$$(2) = 0.10$$

$$(3) = 0.80$$

Reliability of Branching Fractions:

$$\pm 0.1 \text{ (uniform)}$$

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